requested product; (8) *request quantity* - quantity or quantity range of product requested, which must equal combined delivery quantities if multiple request line-item deliveries are defined; (9) *request date* - date or date range product is required to arrive at customer ship-to location, which user may override if there are multiple request line-item deliveries for the request line-item; (10) *category/attribute* - category/attribute combinations for the requested product; (11) *line-item grouping* - relates multiple request line-items as logical grouping for delivery coordination, where grouping may represent configuration, bundled package of products, set of items that must ship together, or any other suitable grouping; (12) *line-item price target* - user-specified target price for request line-item, which fulfillment server may consider when evaluating ATP server responses and, if not met, may indicate in the resulting quotation; (13) *preferred product/supplier* - defaulted from profiled business constraints, which user may be able to selectively override and fulfillment server 16 uses when sourcing request line-item; (14) *alternates/substitutes allowed* - defaulted from profiled business constraints, which user may be able to selectively override and which fulfillment server 16 may use to process request line-item; (15) *preferred alternates/ substitutes* - defaulted from profiled business constraints, which user may be able to selectively override and which may allow fulfillment server 16 and supplier to cooperate in selecting available alternates or substitutes for requested product; (16) *mandatory* - whether request line-item is mandatory relative to others in its grouping, such that insufficient quantities of a mandatory item may result in a failed quotation; (17) *lot size/multiple* - defaulted from basic product definition, which user may be able to selectively override and fulfillment server 16 may use in processing request line-item such that ATP server response quantities are rounded accordingly; (18) *ship complete* - defaulted from the profiled business constraints, which the user may be able to selectively override and fulfillment server 16 may use in processing request line-item; (19) *partial/cancel* - defaulted from profiled business constraints, which user may be able to selectively override and fulfillment server 16 may use in processing request line-item such that it may be dropped if not completely fulfilled; (20) *ship on-time* - defaulted from profiled business constraints, which the user may be able to selectively override and fulfillment server 16 may use in processing the request line-item to reject late or early promises; (21) *LFM/ATP response status* -

fulfillment server 16 monitors after brokering component ATP request to LFMs 22 and/or ATP servers 14, such that when all the component quotations have been received fulfillment server 16 may begin evaluating quotation; (22) *LFM- or ATP-initiated event status* - maintained at fulfillment server 16, such that if a planning event affects supply, LFM 22 and/or ATP servers 14 notes this and informs fulfillment server 16 so that fulfillment server 16 may re-evaluate status of request relative to profiled business constraints and notify user of any change in request status; and (23) *request line-item status*- updated at certain milestones in the life cycle of the request line-item.

Request Line-Item Delivery Attributes

In one embodiment, the request line-item delivery is an object having the following attributes or otherwise supporting the following information, in any suitable combination and without limitation: (1) *request line-item ID* - links request line-item delivery to request line-item; (2) *request line-item delivery ID* - assigned at fulfillment server 16; (3) *ship-to* - default ship-to address for the request line-item delivery, which is defaulted from request line-item and user may selectively override; (4) *request quantity* - quantity or quantity range of product requested, which must equal request line-item *request quantity*; (5) *request date* - date or date range product is required to arrive at the customer ship-to location for the request line-item delivery, which user may be able to override if there are multiple request line-item deliveries for a request line-item; and (6) *category/attribute* - category/ attribute combinations for the request line-item delivery, which the user may be able to selectively override if there are multiple request line-item deliveries for a given request line-item.

Process ATP Request [Fulfillment Server]

Each of the line-items associated with ATP request 30 may be fulfilled from a logically or geographically distinct ATP server 14. In this workflow, the primary tasks of fulfillment server 16 are to decompose ATP request 30 into individual request line-items, broker resulting component ATP requests 32 against the distributed network of ATP servers 14 using network 20 and LFMs 22, evaluate component quotations 34 received from LFMs 22, and send a unified quotation 36 to client 12 using network 18. If multiple deliveries have been specified for a given request line-

item, fulfillment server 16 creates a separate component ATP request 32 for each delivery. Some or all component ATP requests 32 may be pre-sourced to particular LFMs 22 according to customer business constraints, user preferences, or supplier-preferred sourcing rules. In the alternative, sourcing preferences may be unspecified, such that multiple LFMs 22 have an opportunity to provide quotation responses. In one embodiment, fulfillment server 16 decomposes and encapsulates customer and other suitable business constraints into component ATP requests 32 before sending them to LFMs 22.

For each product, a supplier may specify minimum and maximum order quantity requirements. In one embodiment, if the parameters of such requirements have been specified, fulfillment server 16 evaluates at the outset whether each request line-item meets such requirements. If any request line-items do not meet specified requirements, a failure response is generated and sent to the requesting client 12 using network 18. In this case, fulfillment server 16 update the status of ATP request 30 and possibly of the failed component ATP requests 32 to "failed request."

Fulfillment server 16 may attempt to define the sourcing for each request line-item according to supplier or location. Fulfillment server 16 may then specifically target the component ATP requests 32 to particular LFMs 22. Because the user may have overridden profiled default constraints, fulfillment server 16 first evaluates the request line-item and request line-item delivery details, then checks the alternate supplier and location sourcing attributes to determine whether alternates are allowed for ATP request 30. If alternates are not allowed, then the primary relationship specified in ATP request 30 will be honored. If alternate sourcing is allowed, then the user, customer, or other alternate sourcing preferences take precedence. If no such sourcing preferences have been specified, fulfillment server 16 may check for the existence of any supplier default preferences. If no specified preferences exist for the supplier either, component ATP requests 32 may be marked "unspecified" relative to the target LFM 22. In this case, multiple LFMs 22 may be allowed to service and respond to component ATP requests 32 as appropriate. In one embodiment, when fulfillment server 16 receives an ATP request 30 for a particular item, fulfillment server 16 may access a mapping of items or item groups to suppliers. An item-to-supplier mapping may, for example, identify the suppliers that sell a desired item. An